AMENDMENTS

Please cancel claims 16-77.

Please amend the claims as follows:

1. (Currently amended) A diverse population of labels, comprising about thirty or more unique labels, wherein each of said unique labels is bound to a nucleic acid molecule by attachment of label monomers of said unique labels to nucleotides in a 1:1 correspondence.

2. (Original) The diverse population of claim 1, wherein each of said unique labels further comprises about the same unit signal, or a multiple thereof.

3. (Original) The diverse population of claim 1, wherein each of said unique labels further comprises a mixture of two or more different labels.

4. (Original) The diverse population of claim 1, further comprising unique labels having a diversity selected from a group consisting of about 40, 60, 80, 100, 120 and 140.

5. (Original) The diverse population of claim 1, further comprising about 150.

6. (Original) The diverse population of claim 1, wherein said labels are fluorescent.

7. (Currently Amended) A diverse population of uniquely labeled probes, comprising about thirty or more target specific nucleic acid probes each attached to a unique label bound to a nucleic acid, label monomers of said unique labels being attached to nucleotides in a 1:1 correspondence.

8. (Original) The diverse population of claim 7, wherein each of said unique labels further comprises about the same unit signal, or a multiple thereof.

9. (Original) The diverse population of claim 7, wherein each of said unique labels further comprises a mixture of two or more different labels.

10. (Original) The diverse population of claim 7, further comprising a diversity of different labels selected from a group consisting of about 50, 100, 200, 500, 1,000, 2,000, 5,000, $1x10^4$ and $3x10^4$.

11. (Original) The diverse population of claim 7, further comprising about $1x10^5$.

12. (Original) The diverse population of claim 7, wherein said labels are fluorescent.

13. (Original) The diverse population of claim 7, wherein said target specific nucleic acid further comprises said nucleic acid bound to said unique label.

14. (Original) The diverse population of claim 7, further comprising two attached populations of nucleic acids, one population of nucleic acids comprising said thirty or more target specific nucleic acid probes, and a second population of nucleic acids comprising said nucleic acid bound by a unique label.

15. (Original) The diverse population of claim 7, further comprising a nucleic acid species selected from the group consisting of a specifier, an antispecifier, a genedigit, an anti-genedigit and a dendrimer.

Claims 16-77 (canceled).

78. (Currently Amended) A nucleic acid labeling kit, comprising a set of genedigits, a set of anti-genedigits and a unique set of labels bound to a nucleic acid molecule by attachment of label monomers of said unique labels to nucleotides in a 1:1 correspondence.

79. (Original) The kit of claim 78, further comprising a specifier.

80. (Original) The kit of claim 78, further comprising a dendrimer.

81. (Original) The kit of claim 78, wherein said unique label further comprises a ratio of two different labels.

82. (Original) The kit of claim 78, wherein said unique label is fluorescent.

83. (Original) The kit of claim 78, further comprising a diverse population of unique labels.

84. (Original) The kit of claim 83, wherein said diversity is selected from the group consisting of 50, 100, 150, 200, 500, 1,000, 2,000, 5,000, $1x10^4$, $3x10^4$ and $1x10^5$.